Amendment of the Claims

The following list of claims replaces all previous version(s) of claims.

1. (Currently Amended) A trench-type storage device comprising:

a substrate;

at least one trench in said substrate;

conductive carbon nanotubes lining said trench; and

a trench conductor filling said trench,

wherein said trench conductor and said substrate having a co-planar top surface.

2. (Currently Amended) ~~The storage device in claim 1,~~ A trench-type storage device comprising:

a substrate;

at least one trench in said substrate;

conductive carbon nanotubes lining said trench;

a trench conductor filling said trench; and

~~further comprising~~ a trench dielectric between said carbon nanotubes and sidewalls of said trench.

3. (Currently Amended) The storage device in claim 1, further comprising a layer of trench dielectric on top of a bottom of said trench and between said carbon nanotubes and sidewalls of said trench, wherein ~~characterized in that~~ the conductive carbon nanotubes form an open cylinder structure lining said sidewalls of said trench through said layer of trench dielectric.

4. (Currently Amended) The storage device in claim 1, wherein ~~characterized in that~~ the trench conductor comprises at least one of polysilicon, a metal, and an alloy thereof, contacting said layer of trench dielectric on top of said bottom of said trench.

5. (Currently Amended) The storage device in claim 1, characterized in that the conductive carbon nanotubes and ~~a separate~~ the trench conductor ~~material~~ are disposed in the trench, and the trench conductor ~~material~~ is carbon free.

6. (Original) The storage device in claim 1, characterized in that the substrate is free of carbon nanotube catalyst materials.

7. (Original) The storage device in claim 1, characterized in that the carbon nanotubes form a consistent lining along approximately the entire length of sidewalls of said trench.

8. (Currently Amended) The storage device in claim 2[[1]], characterized in that the trench-type storage device is planarized so that a top surface of the substrate is coplanar with respective top surfaces of the trench dielectric, the conductive carbon nanotubes ~~nanotube~~ and the trench conductor.

9. (Original) The storage device in claim 1, characterized in that the conductive carbon nanotubes are grown downwards into the trench.

10. (New) The storage device in claim 1, further comprising a trench dielectric between said carbon nanotubes and sidewalls of said trench.